

**ADJUSTABLE CUSHIONING SYSTEM FOR**  
**CARRYING CASE**

**Field of the Invention**

[001]           The present invention relates generally to carrying cases or bags,  
5   for safely transporting delicate instruments, such as computers, and more  
    particularly to impact resistant cushions for use in carrying cases.

**Prior Art**

[002]           Laptop computers vary widely in size and shape, depending on  
the features engineered into them by their manufacturers. This variation makes  
10   it difficult for carrying case manufacturers to design cases which offer adequate  
    protection against accidental drops, yet still fit the wide variety of laptops  
    available.

[003]           Most laptop cases have foam padding surrounding the internal  
cavity, which holds the laptop. The cavity is sized to fit a certain range of  
15   different-sized laptops, but it never perfectly matches all laptops. Invariably,  
    there is some room left within the carrying case, such that the laptop is  
    susceptible to damaging impact in the event of an accidental drop.

[004]           A common approach to addressing the above problem is  
disclosed in U.S. Patent No. 5,960,952, wherein a laptop is strapped into a  
20   briefcase and a single moveable foam bar is used to separate the laptop from  
    its associated accessories. The foam bar is not held firmly in place and offers  
    little protection in the event of a fall. Also, since the laptop is not centered in the  
    case, weight distribution is uneven, making it somewhat awkward to carry.

[005]           An improvement is disclosed in U.S. Patent No. 6,334,533,  
25   wherein two adjustable cushion segments are described, one of which can be  
    positioned laterally to change the internal width of the case to fit the width of the  
    laptop. However, the laptop is still off-center and the height of the internal case  
    cavity is not adjustable.

[006] U.S. Patent No. 5,857,568 discloses another solution, whereby an adjustable frame is used to re-size the inside of the case to match the size and shape of the laptop. The laptop remains centered, ensuring even weight distribution. While this invention does address the problems identified above, it  
5 is mechanically complicated. The user of this case would need tools to configure it properly, and the additional weight of the frame places an undue burden on the user who is already encumbered by the weight of the laptop.

[007] U.S. Patent No. 5,769,232 describes an inflatable protective lining system for shipping containers. Depending on the degree of inflation, the lining  
10 can be adjusted to hold the enclosed article suspended within the container.

### **Summary of the Invention**

[008] According to the present invention, an adjustable cushioning system is provided for use in a carrying case or the like, adapted to be re-sized internally to match the size and shape of its contents. Shock-absorbent  
15 spacers are stacked against the walls of the case or bag to adjust the internal dimensions of the case or bag as desired.

### **Brief Introduction to the Drawings**

[009] A detailed description of the invention is set forth herein below, with reference to the following drawings, in which:

20 [010] Figure 1 shows a carrying case according to one aspect of the present invention;

[011] Figure 2 shows the carrying case of Figure 1 with a plurality of stackable, shock-absorbent spacers according to another aspect of the present invention;

25 [012] Figure 3 shows the carrying case of Figures 1 and 2 with a laptop computer fit snugly therewithin; and

[013] Figure 4 shows a plurality of spacers of different sizes and shapes, according to the present invention.

### **Description of the Invention**

**[014]** As used herein, "carrying case" means any case or bag for carrying fragile items such as laptop computers, whether such case or bag has soft or rigid exterior walls.

5 **[015]** Figure 1 shows a carrying case 1 of arbitrary size suitable for carrying a laptop computer or the like. The internal sides 3 of the case are lined with an adhesive material, such as hook and loop fasteners sold under the trademark Velcro®, or other suitable adhesive material.

**[016]** As shown in Figure 2, a plurality of shock-absorbent spacers 5  
10 are stacked against the walls of the case (as many as necessary) to adjust the internal dimensions of the case to fit the size and shape of the object enclosed.

**[017]** By varying the number of spacers, the user can adjust the internal dimensions to snugly fit any size of laptop that is not larger than the case or bag itself. No tools are required to perform this adjustment. The spacers can be  
15 pulled apart with only a slight effort.

**[018]** As shown in Figure 3, the laptop 7 remains centered within the case 1, its weight evenly distributed, for greater carrying comfort.

**[019]** With reference to Figure 4, the spacers are preferably fabricated from a lightweight foam cushion material, which imposes no noticeable weight  
20 burden on the user, yet still acts as an effective shock-absorber in the event the carrying case is accidentally dropped. On at least one side (preferably opposite sides) is a hook and loop fastening system (e.g. hooks on one side and loops on the opposite side), such as sold under the trademark Velcro®. The shape of each spacer 5 is preferably a parallelepiped, although other suitable shapes  
25 may be used (e.g. cylindrical rolls, etc.)

**[020]** A person understanding the present invention may conceive of other embodiments or variations, all of which are believed to be within the sphere and scope of the invention as defined by the claims appended hereto.